WHAT IS CLAIMS IS:

1. A method for transmitting data between at least one
receiver operatively connected to at least one transmitter via at least one high-
speed link having a plurality of virtual channels, the method comprising the
steps of:

    the receiver sending a virtual channel credit packet for a
particular virtual channel to the transmitter, said credit packet being indicative
that said receiver is available to receive data and having a unique virtual
channel number assigned to said particular virtual channel thereto;

    the transmitter responding to said virtual channel credit packet
including transmitting data to the receiver if data is available; and,

    the receiver receiving said data transmitted from the transmitter.

2. The method according to claim 1 wherein said virtual
channel credit packet is sent when the receiver has the available resources to
receive transmission data from the transmitter for said particular virtual
channel, and is ready to do so.

3. The method according to claim 1 wherein said data
includes said unique virtual channel number assigned to said particular virtual
channel.

4. The method according to claim 1 further comprising the
steps of repeating the process for the next virtual channel number until all
virtual channels are running.

1   5.   The method according to claim 1 wherein prior to said

2 step of the receiver sending a virtual channel credit packet, further comprising

3 the steps of:

4   the receiver checking for available buffer for transmission;

5   the receiver waiting for a predetermined time if no buffer is

6 available; and,

7   the receiver sending said virtual channel credit packet for said

8 specific virtual channel once buffer is available.

1   6.   The method according to claim 5 wherein said step of the

2 receiver waiting for a predetermined time further comprising the step of the

3 receiver repeating said step of the receiver checking for available buffer step

4 until a buffer is available.

1   7.   The method according to claim 1 wherein said step of the

2 transmitter responding to said virtual channel credit packet further comprising

3 the steps of:

4   the transmitter checking for available buffer for said specific

5 virtual channel;

6   the transmitter waiting for a predetermined time if no buffer is

7 available; and,

8   the transmitter looking for said virtual channel credit packet from

9 the receiver if a buffer is available.

1   8.   The method according to claim 7 wherein said step of the

2 transmitter waiting further comprising the step of the transmitter repeating said

3 step of the transmitter checking for an available buffer until a buffer is

4 available.

1   9.   The method according to claim 7 wherein said step of the

2 transmitter looking for said virtual channel credit packet further comprising the

3 steps of:

4   the transmitter waiting for a predetermined time if said virtual

5 channel credit packet is not found; and,

6   the transmitter checking for available data for transmission if said

7 virtual channel credit packet is found.

1   10.   The method according to claim 9 wherein said step of the

2 transmitter waiting further comprising the step of the transmitter repeating said

3 step of the transmitter looking for said virtual channel credit packet until said

4 virtual channel credit packet is found.

1   11.   The method according to claim 9 wherein said step of the

2 transmitter checking for available data further comprising the steps of:

3   the transmitter waiting for a predetermined time if no data is

4 available; and,

5   the transmitter sending said data if data is available.

1   12.   The method according to claim 11 wherein said step of the

2 receiver waiting further comprising the step of the receiver repeating step of

3 receiver checking for available data until data is available for transmission.

1   13.   The method according to claim 11 wherein said step of the
2 transmitter sending said data further comprising the step of the transmitter
3 repeating the method according to claim 1 for the next virtual channel credit
4 number.

1   14.   The method according to claim 1 wherein said step of the
2 receiver accepting said data further comprising the steps of:
3   the receiver checking if said data has been received from the
4 transmitter;
5   the receiver waiting for a predetermined time if said data has not
6 been received; and,
7   the receiver repeating the method according to claim 1 for the
8 next virtual channel number if said data has been received.

1   15.   The method according to claim 14 wherein said step of the
2 receiver waiting further comprising the step of the receiver repeating said step
3 of the receiver checking until said data has been received from the transmitter.

1   16.   A system for transmitting data packets between at least
2 one receiver operatively connected to at least one transmitter via at least one
3 high-speed link having a plurality of virtual channels, said system comprising:
4   means for sending a virtual channel credit packet for a particular
5 virtual channel to the transmitter, said credit packet being indicative that said
6 receiver is available to receive data packet;
7   means for responding to said virtual channel credit packet and
8 transmitting at least one data packet to said credit packet sending means;

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9   means for accepting said at least one data packet from said data

10   packet transmitting means; and,

11   said virtual channel credit packet having a unique virtual channel

12   number assigned to said particular virtual channel.

1   17.   A system for transmitting data packets between at least

2   one receiver operatively connected to at least one transmitter via at least one

3   high-speed link having a plurality of virtual channels, said system comprising:

4   the receiver being adapted to send a virtual channel credit packet

5   for a particular virtual channel to the transmitter, said credit packet being

6   indicative that said receiver is available to receive data packets;

7   the transmitter being adapted to respond to said virtual channel

8   credit packet and transmit at least one data packet to the receiver;

9   the receiver being adapted to accept said at least one data packet

10   transmitted from the transmitter; and,

11   said virtual channel credit packet having a unique virtual channel

12   number assigned to said particular virtual channel.

1   18.   A system according to claim 17 wherein said credit packet

2   is further indicative of the receiver having an available buffer of sufficient

3   capacity to receive a data packet from the transmitter.